

IN THE DRAWINGS:

Please note enclosed Figure 3, including the addition of numerical designation “83”, marked as an “Replacement Sheet”.

REMARKS

Examiner King is thanked for the courtesy extended during the Office Interview on April 6, 2006.

Reconsideration of the rejection of Claim 24 under 35 U.S.C. §112, second paragraph is hereby requested. Claim 24 has been amended to clarify the term “clevis-type” by changing the term to “clevis”. Therefore, reconsideration of this rejection is respectfully requested.

Reconsideration of the rejection of Claims 1-10, 19-24, 32 and 36-40 under 35 U.S.C. §103(a) as being unpatentable over Huber (U.S. Patent No. 6,431,329) is hereby requested.

Claims 1 and 37 have been amended and now recite:

Claim 1:

An actuator responsive to fluid signals to extend and retract a piston, the actuator comprising:
a cylinder;
a pressure piston carried inside the cylinder;
a shaft;
a rod connected to the pressure piston, and the rod to be connected to a device to be moved;
a first port configured to receive a fluid pressure to move the pressure piston to a first position; and
a locking mechanism inside a portion of a piston bore of the pressure piston, the locking mechanism including a first surface and a second surface, with both surfaces traveling with the pressure piston along the shaft in response to the fluid pressure at the first port, and the surfaces locking the pressure piston in the first position upon removal of the fluid pressure at the first port (amended portion is underlined).

Claim 37:

An actuator for a parking brake for a rail vehicle, the actuator being responsive to fluid signals to apply and release brakes on the vehicle, the actuator comprising:
a cylinder;
a pressure piston carried inside the cylinder;
a shaft;
a rod connected to the pressure piston, and the rod to be connected to a parking brake;

an apply port configured to receive a fluid pressure to move the pressure piston to an applied position; and

a locking mechanism inside a portion of a piston bore of the pressure piston, the locking mechanism including a first surface and a second surface, with both surfaces traveling with the pressure piston along the shaft in response to the fluid pressure at the apply port, and the surfaces locking the pressure piston and the parking brake of the vehicle in the applied position upon removal of the fluid pressure at the apply port (amended portion is underlined).

Applicants asserts that Claims 1 and 37 are allowable because (1) Huber '329 does not disclose “a locking mechanism inside a portion of a piston bore of the pressure piston” and, (2) even if, as proffered by the Office Action on page 3, a “reversal [of] the shaft locking arrangement of Huber ['329]” were carried out “such that the shaft 104 is fixed to the cylinder and the locking arrangement is carried by the piston”, there is absolutely no teaching or suggestion in Huber '329 that provides one of ordinary skill in the art either the motivation to perform such a reversal placing the locking arrangement inside a portion of a piston bore of the pressure piston or the knowledge of how to do it.

Moreover, one of ordinary skill in the art may attempt a reversal of the locking arrangement, from being “fixed” to being “moveable”, in a number of ways, such as, for example, by just connecting the locking mechanism to the piston head. Therefore, Applicants assert that assuming it may be obvious to perform a “mere” reversal of parts, placing the locking arrangement of Huber '329 “inside a portion of the piston bore of the pressure piston,” as claimed in Applicants’ Claims 1 and 37, is not necessarily obvious to one skilled in the art because there could be a variety of ways to accomplish a reversal.

In that regard, Applicants further assert that even if one of ordinary skill in the art did figure out how to “fix” the shaft to the cylinder and to attach the locking mechanism to the pressure piston in Huber '329, it would require a major redesign of Huber '329. Simply implementing that arrangement in Huber '329 would still not permit the actuator to work. That is because if the shaft has been reversed and is now fixed to the cylinder, the rod cannot move because it is still fixed to the shaft. For the rod to move, it would require another major redesign of the rod and/or the shaft so the rod could move relative to the shaft.

To reiterate, Huber '329 does not provide any teaching or suggestion to modify its locking mechanism and shaft arrangement in a mere reversal of parts because there is no single way to do the reversal and would require a major redesign. And, without Applicants’

present disclosure, it would not have been obvious to, nor is there any motivation provided for, one of ordinary skill to modify Huber '329 by reversing the locking mechanism and shaft to achieve Applicants' invention as stated in Claims 1 and 37. Therefore, reconsideration of this rejection is respectfully requested.

Further regarding the above Amendments to Claims 1 and 37 ("a portion of a piston bore"), the Specification has been amended at paragraph 32 by the addition of numerical designation "83" representing a bore of the pressure piston 14. This supports the language added to Claims 1 and 37, which language is further supported in the drawings, as shown in amended Figure 3 by numerical designation "83".

As stated in the Office Action, Claims 11-18 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, Claims 41 and 42 have been added. Claim 41 includes the allowed subject matter of original Claims 1 and 11. Claim 42 includes the allowed subject matter of original Claims 1 and 15.

Claim 43 has also been added. Claim 43 includes the subject matter of original Claims 1 and 3. Claim 43 is considered to be allowable for at least the following reasons. First, the applied prior art reference of Huber '329 (as applied against original Claims 1 and 3) does not disclose the following limitations stated in Applicants' Claim 43: (a) "a rod connected to the pressure piston and moveable axially with respect to and concentrically over the shaft..."; and (b) "a locking mechanism inside a portion of a piston bore of the pressure piston...". Second, there is no teaching or suggestion in Huber '329 to support the Office Action's assertion that it would be obvious to one of ordinary skill in the art to reverse the locking mechanism 110 (which should include the sleeve 115) that is fixed to the cylinder 101 and the shaft 104 that is fixed to the piston 105. Simply having the locking mechanism 110/115 "carried" by the piston 105 and the shaft 104 fixed to the cylinder 101 is not the same as figuring out how and where to locate the locking mechanism inside a portion of the bore of the piston 105. And, even if, in a reversal of parts, the locking mechanism 110/115 is somehow "carried by the piston" 105 and the shaft 104 is then fixed to the cylinder 105, there is still a significant problem with the rod 103. The rod 103, being fixed to the shaft 104, now cannot move.

Thus, Applicants assert that we do not have a mere reversal of parts scenario. There would have to be a major redesign of Huber '329 reconfigure the actuator to place the locking

mechanism 110/115 inside a portion of the bore of the piston 105 and a major redesign to redesign the rod to allow the rod to move axially with the piston and with respect to the shaft. Applicants submit that a mere reversal of parts will not permit the actuator of Huber '329 to function as intended...unless other major redesign efforts are undertaken.

Applicants conclude that the Office Action, lacking a sufficient teaching, suggestion or motivation in Huber '329 to support an obviousness rejection, is using hindsight reconstruction gleaned from Applicants' disclosure to attempt to modify Huber '329 using a faulty "reversal of parts" argument to achieve Applicants' invention as recited in Claim 43. Such an obviousness rejection is improper because a mere reversal of parts would not allow the actuator of Huber '329 to function without major redesign. Therefore, Claim 43 is deemed to be in condition for allowance and such is respectfully requested.

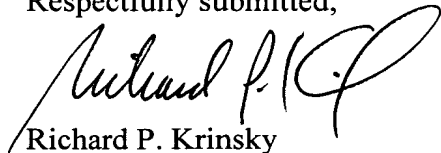
Applicants respectfully request that upon allowance of one or more generic claims, (Claims 1-24, 32 and 36-43 are deemed to be generic) that Claims 25-31 and 33-35, which depend from generic claims, be considered and allowed.

Based upon all of the above, Claims 1-43 are considered to be condition for allowance and such is respectfully requested.

In view of the above, the Application is now in condition for allowance and such is respectfully requested.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees be charged, or any overpayment in fees be credited, to the Account of Barnes & Thornburg LLP, Deposit Account No. 02-1010 (509/40513).

Respectfully submitted,



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Enclosures: Amendments to the Specification, Claims and Drawings